LOCALLY ASSEMBLED

EVEREADY

NICKEL CADMIUM

Rechargeable Cells and Batteries - made to your individual requirements.

BEREC-EVEREADY SPECIAL PRODUCTS DIVISION has already produced over 300 different designs to customers' specifications. Each configuration poses fresh challenges in both power and space requirements. We can also make up replacement packs for imported equipment. We're always ready to help with design projects. Get in touch with us today for free confidential advice or full technical data.

Nickel Cadmium Cylindrical Cells

CHARACTERISTICS

The chief characteristics of the nickel cadmium electro-chemical systems, as interpreted in this hermetically sealed range are:

Freedom from maintenance -
unlike most secondary cells no maintenance whatsoever is required.

Flat voltage curve -
the cell voltage is substantially constant throughout the discharge cycle. (See graph 1)

High rate discharge -
cells are capable of, and in fact specially suited to, high rates of discharge.

Overcharge capability -
cylindrical cells are capable of accepting long term over-charging at prescribed rates and temperatures.

Wide temperature range -
cells will operate over a wide temperature range and in a variety of unusual environments e.g. in gravity free conditions or in vacuum. Sintered Cells
Charge -30°C to +50°C
Discharge -30°C to +50°C

Where charging outside the range +10°C to +40°C, or continuous charging is required, we advise consultation with our engineers. (See graph 2).

Long cycle life -
cells can be charged and discharged hundreds, and even thousands, of times depending on conditions of use.

Indefinite shelf life -
cells may be stored indefinitely in any state of charge or discharge and at any range of temperatures, -60°C to +60°C without permanent deterioration

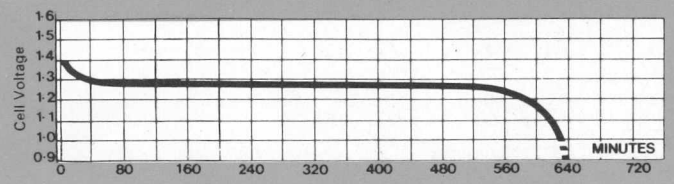
Good charge retention -
cells exhibit good charge retention characteristics e.g. a fully charged cell will deliver approximately 70% of its capacity after one month's storage at 20°C. Retention is improved at lower temperatures. (See graph 4).

Low internal resistance -
sintered cells have very low internal resistances, in the order of a few milliohms.

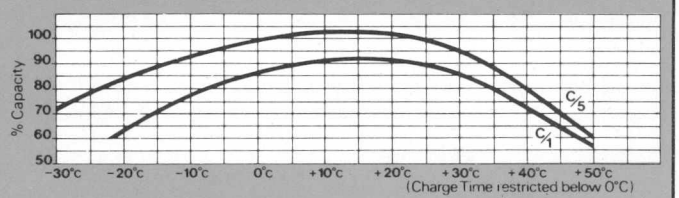
Shock proof construction -
due to their engineered construction, cells are shock and vibration resistant.

Use in any position -
being fully sealed, cells may be charged, discharged or stored in any position.

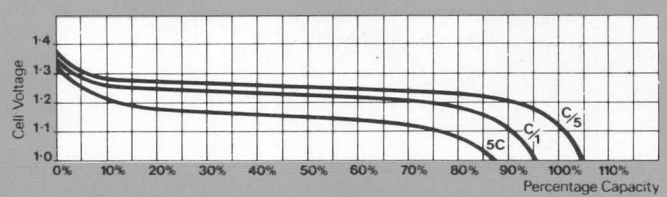
Typical curves illustrating some of the main operating variables of our sealed cylindrical nickel cadmium cells - all cells have been charged at C/10 for 14 hours where applicable.



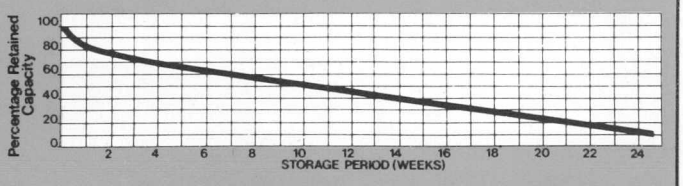
Voltage stability on discharge, continuously discharged at 10 hour rate at 20°C. Graph 1



Charge and discharge with temperature. Graph 2



Capacity variation with discharge rate at 20°C. Graph 3

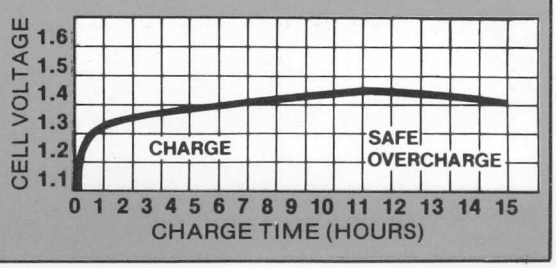


Charge retention with time at 20°C. Graph 4

CHARGING

Charging can be accomplished with very simple circuitry but in all cases the current should be maintained approximately constant or limited to a known safe value. We do not advise the use of constant potential charging systems due to very low internal resistance of our nickel cadmium cells and the possibility of drawing very high current leading to overheating, or thermal runaway.

Voltage on Charge or Charge/Discharge Voltages:
The voltage of a cell on charge at room temperature rises to 1,4 to 1,5 volts, falling to an average of 1,20 volts on discharge.



Eveready Sealed Nickel Cadmium Range

We give below brief details of our standard range of sealed nickel cadmium cylindrical and button cells. Also available are the ST range of high temperature standby cells and the AN range of High Technology, improved efficiency and increased capacity cells. Details on request.

Eveready Cell Reference	Size	IEC Designation	Nominal Capacity Ah.	Maximum Diameter mm.	Maximum Height mm.	Approximate Weight Grams	Normal Charging Rate	Average Discharge Voltage
CYLINDRICAL CELLS								
NCC 12	1/3AA	KR 15/18	0,11	14,3	17,1	8	12mA for 14 hours	1,2
NCC 15	N	KR 12/30	0,15	12,0	30,0	8,5	15mA for 15 hours	1,2
NCC 18	AAA		0,18	10,5	44,5	10	20mA for 15 hours	1,2
NCC 24	1/2AA		0,24	14,3	28,1	14	26mA for 14 hours	1,2
NCC 45/1	1/2A	KR 18/29	0,45	17,4	28,1	19	45mA for 14 hours	1,2
NCC 45	AA	KR 15/51	0,45	14,5	50,0	23	50mA for 14 hours	1,2
NCC 50	AA	KR 15/51	0,50	14,3	50,1	27	50mA for 14 hours	1,2
NCC 60	Super AA	KR 17/51	0,60	15,6	50,1	30	60mA for 14 hours	1,2
NCC 120/1	1/2SC		0,60	23,0	26,5	28	60mA for 14 hours	1,2
NCC 90	2/3C		0,90	26,0	31,0	45	100mA for 14 hours	1,2
NCC 120	RR	KR 23/43	1,20	22,6	42,8	50	120mA for 14 hours	1,2
NCC 200	C	KR 27/50	2,00	26,0	49,0	78	200mA for 14 hours	1,2
NCC 230	1/2D		2,30	33,8	38,8	100	230mA for 14 hours	1,2
NCC 350	Dm		3,50	32,5	57,5	155	350mA for 14 hours	1,2
NCC 400	D	KR 35/62	4,00	33,8	61,0	170	400mA for 14 hours	1,2
NCC 700	F	KR 35/92	7,00	33,8	91,0	255	700mA for 14 hours	1,2
NCC 1000	Super F	KR 44/91	10,00	41,5	91,0	410	1000mA for 14 hours	1,2

Eveready Cell Reference		Capacity	Voltage	Maximum Diameter	Maximum Thickness	Approximate Weight Grams	C/10 Charge Rate	Internal* Resistance
BUTTON CELLS								
NCB 6 ZA		60mAh.	1,2	16mm.	6,1mm.	4	6mA for 14/16 hours	28mΩ
NCB 11 ZA		110mAh.	1,2	23mm.	4,5mm.	6	11mA for 14/16 hours	140mΩ
NCB 15 ZA		150mAh.	1,2	25mm.	5,5mm.	9	15mA for 14/16 hours	120mΩ
NCB 25 ZA		250mAh.	1,2	25mm.	9,0mm.	13	25mA for 14/16 hours	100mΩ
NCB 25 DA		250mAh.	1,2	25mm.	9,0mm.	13,5	25mA for 14/16 hours	70mΩ
NCB 60 ZA		600mAh.	1,2	35mm.	10,0mm.	30	60mA for 14/16 hours	70mΩ
NCB 60 VA		600mAh.	1,2	35mm.	10,0mm.	30,5	60mA for 14/16 hours	30mΩ
NCB 11 Z 2A		110mAh.	2,4	23mm.	7,5mm.	10	11mA for 14/16 hours	280mΩ
NCB 15 Z 2A		150mAh.	2,4	25mm.	9,0mm.	14	15mA for 14/16 hours	220mΩ
NCB 30 Z 2A		300mAh.	2,4	35mm.	10,0mm.	31	30mA for 14/16 hours	120mΩ

***50Hz, fully charged.**

Nomenclature
The NCB number is based on the 10 hour discharge rate in millamperes. The initial "Z" refers to a cell with two internal electrodes; one Positive and one Negative. The initial "D" refers to a cell having three internal electrodes; one Positive and two Negatives - and the "V" types have four electrodes; two Positives and two Negatives. The "Z 2A" types are combined two-cell batteries with an overall voltage of 2,4 volts.

The MEMTEC-Range of rechargeable nickel cadmium button cells for memory protection.
Designed to provide the 'Back-up' support required by most CMOS and NMOS systems. There are five batteries in the range from 1,2 volts up to 6,0 volts, all at 100mAh capacity. The batteries are provided with polarised printed circuit board mounting tags. Details on request.

SOLDER TABS
When single cells are requested they are usually required with solder tabs. When ordering, please specify one of the three styles illustrated.

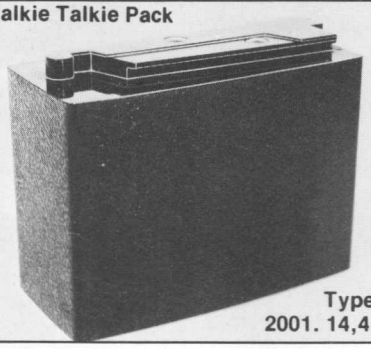
STYLE CF 

STYLE HH
Not suitable for button cells.


STYLE HB 

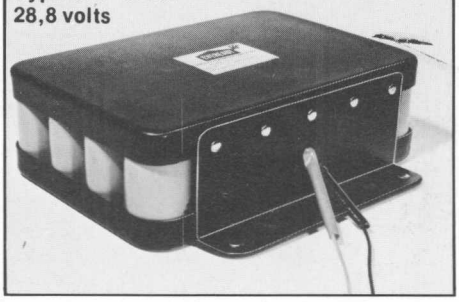
Eveready Nickel Cadmium Battery Packs

Walkie Talkie Pack



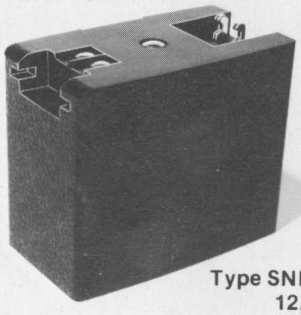
Type SNP
2001. 14,4 volts

Switch Tripping Pack
Type SNP 3013.
28,8 volts



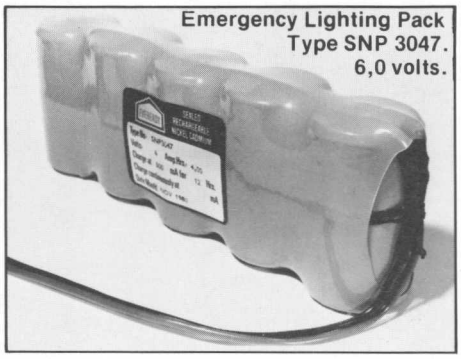
Walkie Talkie Pack
Type SNP 2011.
7,2 volts.

Walkie Talkie Pack



Type SNP 2003.
12,0 volts

Emergency Lighting Pack
Type SNP 3047.
6,0 volts.



Walkie Talkie
Pack
Type SNP
2042.
14,4 volts.

EVEREADY CHARGERS

Standard rate AC or DC chargers matched to battery cell requirements. Specialised fast charge units made to customers' specifications.

OTHER PRODUCTS AVAILABLE

- **Vented pocket plate nickel cadmium cells and batteries for high capacity applications.**
- **6 volt and 12 volt maintenance free sealed lead acid batteries.**
- **Lead acid [absorbed electrolyte] aircraft batteries - fully aerobatic - C.A.A. approved.**
- **Rechargeable portable lanterns and high powered torches.**
- **Specialised battery systems and solar charging applications also available.**

EVEREADY

GUARANTEED

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CAME